

REMARKS

Claims 1, 2, 4, 9-15 and 17-23 are pending. Claims 1 and 23 are independent. By this Amendment, claim 14 is amended. No new matter is involved.

Reconsideration of the Application, as amended, is respectfully requested.

Claim Objection

Claims 14 is objected to for lack of antecedent basis. Applicant has amended claim 14 to overcome this minor informality.

Accordingly, reconsideration and withdrawal of this claim objection are respectfully requested.

Rejections under 35 U.S.C. § 103

Claims 1, 9-11 and 23 stand rejected by the Examiner under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. 2003/0061956 to Tsukamoto in view of U.S. Patent No. 5,683,512 to Mailander. Claims 2 and 4 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Tsukamoto in view of Mailander and further in view of U.S. Patent No. 6,006,665 to Stuchlik et al. Claims 12-14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Tsukamoto in view of Mailander and further in view of U.S. Patent No. 4,879,950 to Ishii. Claims 15, and 17-21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Tsukamoto in view of Mailander and further in view of U.S. Patent No. 4,879,950 to Ishii and further in view of U.S. Patent No. 4,878,427 to Washchynsky et al. Claim-22 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Tsukamoto in view of Mailander and further in view of U.S. Patent No. 4,879,950 to Ishii and further in view

of U.S. Patent No. 4,878,427 to Washchynsky et al. and further in view of U.S. Patent No. 6,125,751 to Korem. These rejections are respectfully traversed.

Initially, Applicant notes that, although the summary of the rejection based on Tsukamoto, Mailander, Ishii and Washchynsky only mentions that this reference combination is used to reject claims 15 and 17-19, the body of the rejection also rejects claims 20 and 21. Accordingly, this rejection will be treated as a rejection of claims 15 and 17-21.

Independent claim 1 recites a printing module which comprises: a main frame; an impression roller being rotatably bearing-mounted in the main frame; a plate cylinder assembly having a plate cylinder that is provided with a print image and that, in use, with the interposition of a substrate to be printed, abuts against the impression roller; an ink reservoir; a doctor roller configured to take up ink from the ink reservoir; an anilox roller being arranged between the doctor roller and the plate cylinder and configured to remove a desired amount of ink from the doctor roller and to transfer ink to the plate cylinder; a first subframe in which the plate cylinder is rotatably bearing-mounted and that is pivotably connected to the main frame through a first pivot for positioning the plate cylinder relative to the impression roller; a second subframe in which the anilox roller and the doctor roller are rotatably bearing-mounted and that is pivotably connected to the main frame through a second pivot for positioning, and setting a distance of, the anilox roller relative to the plate cylinder, such that a positioning change of the plate cylinder relative to the impression roller does not affect the positioning of the anilox roller relative to the plate cylinder and that a positioning change of the anilox roller relative to the plate cylinder does not affect the positioning of the plate cylinder relative to the impression roller.

Independent claim 23 recites a printing machine containing a printing module that comprises: a main frame; an impression roller being rotatably bearing-mounted in the main

frame; a plate cylinder assembly having a plate cylinder that is provided with a print image and which, in use, with the interposition of a substrate to be printed, abuts against the impression roller; an ink reservoir; a doctor roller configured to take up ink from the ink reservoir; an anilox roller being arranged between the doctor roller and the plate cylinder and configured to remove a desired amount of ink from the doctor roller and to transfer ink to the plate cylinder; a first subframe in which the plate cylinder is rotatably bearing-mounted and that is pivotably connected to the main frame through a first pivot for the purpose of the positioning of the plate cylinder relative to the impression roller; a second subframe in which the anilox roller and the doctor roller are rotatably bearing-mounted and that is pivotably connected to the main frame through a second pivot for the purpose of the positioning the anilox roller relative to the plate cylinder, such that a positioning change of the plate cylinder relative to the impression roller does not affect the positioning of the anilox roller relative to the plate cylinder and that a positioning change of the anilox roller relative to the plate cylinder does not affect the positioning of the plate cylinder relative to the impression roller.

Tsukamoto does not disclose a first subframe in which the plate cylinder is rotatably bearing-mounted and that is movably connected with the main frame for positioning and setting a distance of the plate cylinder relative to the impression roller. Instead, in the embodiment of Fig. 1, Tsukamoto's plate cylinder (16) appears to be bearing-mounted in the main frame (F). Accordingly, the plate cylinder is not bearing-mounted in a subframe that is moveable relative to the main frame, which would allow one to set the position/distance of the plate cylinder relative to the impression roller. In an alternative embodiment, the plate cylinder (16) may be supported in the main frame (F) by means of a support structure of the same type that is described for the fountain roll (13) (para.29). This support structure,

however, does not comprise a subframe (e.g. an “interior frame F1”) that is moveably connected with a main frame (F) for the purpose of positioning, and setting a distance, of the supported roll (here: the plate cylinder (16)) relative to anything else (here: the platen (17)). The disclosed support structure is merely configured for accurately holding any supported roll in a single mounted position relative to the main frame (cf. para.12); adjustment possibilities are not described, and do not seem possible.

In the embodiment of Fig. 1, Tsukamoto discloses a subframe (F1) in which the anilox roller (15) and the doctor roller (13) are rotatably bearing-mounted (Figs.1-2; para.28). This subframe, however, is not moveably connected to the main frame (F), nor is it movably connected to any other subframe for positioning, and setting a distance of, the anilox roller relative to the plate cylinder. In contrast, and as discussed above, the disclosed support structure is configured for accurately holding an individual roll in a single mounted position.

Thus, in short, the printing device (10) disclosed by Tsukamoto discloses a number of bearing-mounted rollers (13, 15-17), each of which has a fixed position relative to any other bearing mounted-roller.

However, Applicant’s independent claims recite a combination of features including (1) a first subframe in which the plate cylinder is rotatably bearing-mounted and that is pivotably connected to the main frame through a first pivot for positioning the plate cylinder relative to the impression roller; and (2) a second subframe in which the anilox roller and the doctor roller are rotatably bearing-mounted and that is pivotably connected to the main frame through a second pivot for positioning, and setting a distance of, the anilox roller relative to the plate cylinder.

The outstanding Office Action admits that Tsukamoto does not disclose that its impression roller 17 is mounted on a main frame, or that the first subframe F is pivotably mounted on a main frame through a first pivot, or that the second subframe F is pivotably connected to a main frame through a second pivot such that a positioning of the plate cylinder 16 relative to the impression roller 17 does not affect the positioning of the anilox roller 15 relative to the plate cylinder 16 or that a positioning change of the anilox roller 15 relative to the plate cylinder 16 does not affect the positioning of the plate cylinder 16 relative to the impression roller 17.

In an attempt to remedy the admitted shortcomings of Tsukamoto, the Office Action turns to Mailander, which discloses a varnishing machine which has a varnishing cylinder 15 with a rubber shell 20 that supplies a coat of varnish onto metal plate fed between the varnishing cylinder 15 and impression roller 14.

Mailander provides means to adjust pressure between its varnishing cylinder and its impression cylinder, and provides means to compensate for changes in rotational speed of the varnishing cylinder caused by soaking of the varnishing cylinder with varnish (col.2, lines 1-7). Mailander does this by pivotably mounting its pressing cylinder 14 so that it can be raised and lowered with respect to its varnishing cylinder 18 (which can be either mounted on main frame 11 or pivotable auxiliary member 10 – see col. 3, lines 1-18). Mailander also pivotably mounts its varnish basin 25 with respect to the varnishing cylinder.

The Office Action concludes that it would be obvious to dispose Tsukamoto's printing cylinder, inking unit and impression roller in a first subframe, second subframe and mainframe as taught by Mailander to precisely adjust pressure and evenly distribute ink

Applicant respectfully disagrees with this conclusion for a number of reasons.

Firstly, Tsukamoto and Mailander differ fundamentally from one another and do not address the same problems. Tsukamoto discloses a flexographic press which uses a printing plate that has an irregular surface with ridges and valleys and is intended to print text and or photos, on a substrate, e.g., paper, whereas Mailander is directed to a smooth varnishing cylinder that coats the entire surface of a substrate with varnish and has no cutouts or grooves (as disclosed in col. 1, lines 21-39). As explained by Mailander, the cylinder can be reground and have an extended surface life but decrease in diameter and need exact pressure adjustment to achieve an extremely thin and highly uniform varnish coating.

The Office Action does not provide objective factual evidence that Tsukamoto's flexographic printing plate will have the reduced thickness feature of Mailander that will require and properly utilize a pivoting frame to achieve that pressure feature.

In fact, applicant respectfully submits that one of ordinary skill would have no proper incentive to turn to Mailander's varnishing system that uses a smooth varnishing plate to modify Tsukamoto's flexographic printing plate device to provide a pressure system that the Office Action does not show it needs to operate properly.

It is significant that Mailander limits its machine to smooth varnishing cylinders, distinguishing them from the varnishing cylinders that have exactly positioned cutouts or grooves. This actually teaches away from making the proposed modification of Tsukamoto by Mailander.

Secondly, Tsukamoto teaches no pivoting movement of its ink fountain and anilox roller with respect to its printing plate 16, and also teaches no pivoting movement of its printing plate 16 with respect to its impression cylinder 17, possibly because of the far greater requirements for accuracy of flexographic printing than for coating a soft drink can metal substrate for having a

coat of varnish applied thereto. In this regard, the Office Action does not provide objective factual evidence that the pivoting arrangement of Mailander, if applied to Tsukamoto would result in an operative device with the needed quality of a flexographic printing system that employs printing plates and applied an ink coating having different thicknesses as opposed to a soft drink can metal substrate that needs a uniform coat of varnish.

Thirdly, Mailander clearly has no explicit or inherent disclosure (i.e., not just possibly disclosed, and not just probably disclosed, but necessarily disclosed) of what is positively recited in claim 1, for example, i.e., a second subframe in which the anilox roller and the doctor roller are rotatably bearing-mounted and that is pivotably connected to the main frame through a second pivot for positioning, and setting a distance of, the anilox roller relative to the plate cylinder, such that a positioning change of the plate cylinder relative to the impression roller does not affect the positioning of the anilox roller relative to the plate cylinder and that a positioning change of the anilox roller relative to the plate cylinder does not affect the positioning of the plate cylinder relative to the impression roller.

In an attempt to understand what this positively recited feature corresponds to in Mailander, Applicant presents, below, this claim language substituting elements of Mailander with corresponding elements of Tsukamoto, which is:

- - for positioning, and setting a distance of, its varnish feed roller 18, relative to the varnishing cylinder 15 is such that a positioning change of the varnishing cylinder 15 relative to the impression roller 14 does not affect the positioning of the varnish feed roller 18 relative to the varnishing cylinder 15 and that a positioning change of the varnish feed roller 18 relative to the varnishing cylinder 15 does not affect the positioning of the varnishing cylinder relative to the impression roller 14. - -

Unfortunately, Mailander contains no such disclosure. In fact, Mailander focuses separately on pressure adjustments between (1) its varnishing cylinder 15 and its varnish feed roller 18; and (2) its vanishing cylinder 14 and its pressure cylinder 14 (which takes into consideration soaking of shell 20 of the varnishing cylinder 15 and regrinding of the varnishing cylinder 15), and is completely devoid of a disclosure of - - positioning, and setting a distance of, its varnish feed roller 18, relative to the varnishing cylinder 15 is such that a positioning change of the varnishing cylinder 15 relative to the impression roller 14 does not affect the positioning of the varnish feed roller 18 relative to the varnishing cylinder 15 and that a positioning change of the varnish feed roller 18 relative to the varnishing cylinder 15 does not affect the positioning of the varnishing cylinder relative to the impression roller 14. - -

Another way of stating this is that neither applied reference is directed to providing a second subframe in which the anilox roller and the doctor roller are rotatably bearing-mounted and that is pivotably connected to the main frame through a second pivot for positioning, and setting a distance of, the anilox roller relative to the plate cylinder, such that a positioning change of the plate cylinder relative to the impression roller does not affect the positioning of the anilox roller relative to the plate cylinder and that a positioning change of the anilox roller relative to the plate cylinder does not affect the positioning of the plate cylinder relative to the impression roller, as claimed. So, no matter how these two references are combined, they cannot possibly disclose, suggest, or otherwise render obvious the claimed invention.

Fourthly, Applicant respectfully submits that Tsukamoto does not need to be modified as suggested to work properly, because Tsukamoto is already configured to permit removal of its fountain roll 13 and its anilox roll 15 by axially moving shaft 45, and the proposed pivoting

arrangement of Tsukamoto's frames F and F1 would result in spilling of the ink in open ink pan 11, thereby rendering the proposed modified version of Tsukamoto inoperative.

Additionally, the Office Action has not demonstrated that one of ordinary skill in the art would be properly motivated to using Mailander's system, which is directed away from using a varnishing cylinder that has grooves and ridges and is directed to obtaining a uniform thickness varnish coal to modify Tsukamoto's flexographic printing system that is directed to using a printing plate that has grooves and ridges of text and/ or non-text image features, and certainly does not provide a uniform thickness layer of ink on a substrate.

Thus, these two references teach away from being combined, as suggested.

To establish a *prima facie* case of obviousness, one must show "some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references." *In re Fine*, 837 F.2d 1071 at 1074, 5 USPQ2d at 1780 at 1783. There is no suggestion to combine, however, if a reference teaches away from its combination with another source. *See id* at 1075, 5 USPQ2d at 1599. "A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant . . . [or] if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant." *In re Gurley*, 27 F.3d 551, 553, 31 USPQ2d 1130, 1131 (Fed. Cir. 1994). If when combined, the references "would produce a seemingly inoperative device," then they teach away from their combination. *In re Sponnoble*, 405 F.2d 578, 587, 160 USPQ 237, 244 (CCPA 1969); *see also In re Gordon*, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed.

Cir. 1984) (finding no suggestion to modify a prior art device where the modification would render the invention obvious).

Applicant respectfully submits that one of ordinary skill in the art would have no proper incentive to make the proposed modification of Tsukamoto in view of Mailander to provide a first pivot, as claimed because these references are so configured so as to teach away from the proposed modification of Tsukamoto in view of Mailander.

With respect to claims 2-4, Applicant respectfully submits that this proposed modification of Tsukamoto by Stuchlik suffers from the same obvious deficiency that the proposed modification of Tsukamoto in view of Mainlander does, because this proposed modification will also result in spilling of the ink from Tsukamoto's open ink supply tray 11, and an inoperative device.

Additionally, Applicant respectfully submits that it is improper to modify Tsukamoto in view of these two significantly different structurally configured secondary references, to arrive at a plural pivot configuration where Mailander pivots different printer rolls than does Stuchlik, and where one reference leaves the printer roll stationary and the other moves the printer roll, resulting in a contradiction and a device that clearly would be inoperative.

Thus, the proposed combinations of Tsukamoto and Mailander and Tsukamoto and Stuchlik are fundamentally improper in and of themselves, and when combined, as suggested in the rejection of previously pending claim 7.

Accordingly, the rejections of record of claims 1 and 23, modified to include features of previously pending claims 6 and 7, fails to make out a *prima facie* case of obviousness of the claimed invention.

In addition to the previous discussion of the outstanding rejections, Applicant provides the following remarks which are directed to the Hess reference.

Applicant respectfully submits that a fair, balanced evaluation of Hess reveals that its configuration is so structurally different from Tsukamoto, that one of ordinary skill in the art would not have any proper incentive to look to it to modify Tsukamoto.

Accordingly, the Office Action does not make out a *prima facie* case of obviousness of the claimed invention recited in independent claims 1 and 23, and/or in any of the pending claims which depend from claim 1.

Claims 2, 4, 7, 9-15 and 17-22 depend from claim 1, which is not rendered obvious by the main reference combination used in these rejections and, therefore, these dependent claims are not rendered obvious by Tsukamoto in view of Mailander.

Moreover, none of the additional references, i.e., Stuchlik, Ishii, Washchynsky and Korem, is applied to remedy the aforementioned shortcomings of the Tsukamoto-Mailander reference combination.

So, even if, solely for sake of argument, one of ordinary skill in the art were properly motivated to modify the Tsukamoto-Mailander reference combination as suggested, the so-modified version(s) of the Tsukamoto-Mailander reference combination would still not render obvious the claimed invention which recites a combination of features including a first subframe in which the plate cylinder is rotatably bearing-mounted and that is pivotably connected to the main frame through a first pivot for positioning the plate cylinder relative to the impression roller; and a second subframe in which the anilox roller and the doctor roller are rotatably bearing-mounted and that is pivotably connected to the main frame through a second pivot for

positioning, and setting a distance of, the anilox roller relative to the plate cylinder, such that a positioning change of the plate cylinder relative to the impression roller does not affect the positioning of the anilox roller relative to the plate cylinder and that a positioning change of the anilox roller relative to the plate cylinder does not affect the positioning of the plate cylinder relative to the impression roller.

Turning to the rejections of claims 2 and 4, simply because a reference discloses a stop surface does not mean that render obvious the claimed stop features, and in this situation, Stuchlik does not disclose using stop surfaces to achieve the claimed invention, and therefore does not render obvious the claimed invention.

Accordingly, reconsideration and withdrawal of these rejections of claims 1, 2, 4, 9-15 and 17-23 are respectfully requested.

CONCLUSION

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone Robert J. Webster, Registration No. 46,472, at (703) 205-8000, in the Washington, D.C. area.

Prompt and favorable consideration of this Amendment is respectfully requested.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§ 1.16 or 1.147; particularly, extension of time fees.

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Respectfully submitted,

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